valve at some accessible point in the bilge line. A stop-check valve located at a control point or manifold will meet the requirements for both a stop valve and a check valve.

(d) A bilge pipe piercing the collision bulkhead must be fitted with a screw-down valve located on the forward side of the collision bulkhead and operable from the weather deck, or, if it is readily accessible under service conditions, a screw-down valve without a reach rod may be fitted to the bilge line on the after side of the collision bulkhead.

§ 182.520 Bilge pumps.

(a) A vessel must be provided with bilge pumps in accordance with Table 182.520(a). A second power pump is an acceptable alternative to a hand pump if it is supplied by a source of power independent of the first power bilge pump. Individual power pumps used for separate spaces are to be controlled from a central control point and must have a light or other visual means at the control point to indicate operation.

TABLE 182.520(a)

Number of passengers	Length of vessel	Bilge pumps required	Min. capacity required per pump ltrs/min (gal/min)
Any number	More than 19.8 m (65 ft)	2 fixed power pumps	190 LPM (50 GPM).
More than 49 passengers and all ferry vessels.	Not more than 19.8 m (65 ft).	1 fixed power pump and 1 portable hand pump	95 LPM (25 GPM). 38 LPM (10 GPM).
Not more than 49 passengers (Other than ferry vessels).	7.9 m, 26 feet up to 19.8 m (65 ft).	1 fixed power pump and 1 portable hand pump or.	38 LPM (10 GPM).
		1 fixed hand pump and 1 portable hand pump	38 LPM (10 GPM). 19 LPM (5 GPM).
	Less than 7.9 m (26 ft)	1 portable hand pump	19 LPM (5 GPM).

(b) A portable hand bilge pump must be:

(1) Capable of pumping water, but not necessarily simultaneously, from all watertight compartments; and

(2) Provided with suitable suction and discharge hoses capable of reaching the bilges fo each watertight compartment.

(c) Each fixed power bilge pump must be self priming. It may be driven off the main engine or other source of power. It must be permanently connected to the bilge manifold and may also be connected to the fire main. If of sufficient capacity, a power bilge pump may also serve as a fire pump.

(d) Where two fixed power bilge pumps are installed, they must be driven by different sources of power. If one pump is driven off the main engine in a single propulsion engine installation, the other must be independently driven. In a twin propulsion engine installation, each pump may be driven off a different propulsion engine.

(e) A submersible electric bilge pump may be used as a power bilge pump required by Table 182.520(a) only on a vessel of not more than 19.8 meters (65 feet) in length carrying not more than 49 passengers, other than a ferry, provided that:

(1) The pump is listed by Underwriters' Laboratories Inc. or another independent laboratory;

(2) The pump is used to dewater not more than one watertight compartment;

(3) The pump is permanently mounted;

(4) The pump is equipped with a strainer that can be readily inspected and cleaned without removal;

(5) The pump discharge line is suitably supported;

(6) The opening in the hull for the pump discharge is placed as high above the waterline as possible;

(7) A positive shutoff valve is installed at the hull penetration; and

(8) The capacity of the electrical system, including wiring, and size and number of batteries, is designed to allow all bilge pumps to be operated simultaneously.

(f) A flexible tube or hose may be used instead of fixed pipe for the discharge line of a submersible electric bilge pump provided the hose or tube does not penetrate any required watertight bulkheads and is:

(1) Of good quality and of substantial construction, suitable for the intended use; and

(2) Highly resistant to salt water, petroleum oil, heat, and vibration.

(g) If a fixed hand pump is used to comply with Table 182.520(a), it must be permanently connected to the bilge system.

(h) On a vessel of not more than 19.8 meters (65 feet) in length, a power driven fire pump required by §181.300 of this chapter may serve as a fixed power bilge pump required by this subpart, provided it has the minimum flow rate required by Table 182.520(a).

(i) On a vessel of more than 19.8 meters (65 feet) in length, a power driven fire pump required by §181.300 of this subchapter may serve as one of the two fixed power bilge pumps required by this subpart, provided:

(1) The bilge and fire pump systems are interconnected;

(2) The dedicated bilge pump is capable of pumping the bilges at the same time the fire/bilge pump charges the firemain; and

(3) Stop valves and check valves are installed in the piping to isolate the systems during simultaneous operation and prevent possible flooding through the bilge system.

(j) A catamaran vessel must be equipped with bilge pumps for each hull, as if each hull is a separate vessel, in accordance with Table 182.520(a), except where:

(1) One dedicated pump is located in each hull;

(2) Each dedicated pump is driven by an independent source of power; and

(3) The bilge system is permanently cross connected between hulls.

[CGD 85–080, 61 FR 986, Jan. 10, 1996; 61 FR 20557, May 7, 1996]

§ 182.530 Bilge high level alarms.

(a) On a vessel of at least 7.9 meters (26 feet) in length, a visual and audible alarm must be provided at the operating station to indicate a high water level in each of the following normally unmanned spaces:

(1) A space with a through-hull fitting below the deepest load waterline, such as a lazarette;

(2) A machinery space bilge, bilge well, shaft alley bilge, or other spaces subject to flooding from sea water piping within the space; and

(3) A space with a non-watertight closure, such as a space with a non-watertight hatch on the main deck.

(b) Vessels constructed of wood must, in addition to paragraph (a), provide bilge level alarms in all watertight compartments except small buoyancy chambers.

(c) A visual indicator must be provided at the operating station to indicate when any automatic bilge pump is operating.

§ 182.540 Ballast systems.

(a) Ballast piping must not be installed in any compartment integral with the hull of a wooden vessel. Where the carriage of liquid ballast in such a vessel is necessary, suitable ballast tanks, structurally independent of the hull, must be provided.

(b) Solid and water ballast must comply with the requirements of part 178 of this subchapter.

Subpart F—Steering Systems

§ 182.600 General.

A self-propelled vessel must comply with the provisions of this subpart.

§ 182.610 Main steering gear.

(a) A vessel must be provided with a main steering gear that is:

(1) Of adequate strength and capable of steering the vessel at all service speeds;

(2) Designed to operate at maximum astern speed without being damaged or jammed; and

(3) Capable of moving the rudder from 35 degrees on one side to 30 degrees on the other side in not more than 28 seconds with the vessel moving ahead at maximum service speed.

(b) Control of the main steering gear, including control of any necessary associated devices (motor, pump, valve, etc.), must be provided from the operating station.